

### **AMENDMENTS TO THE SPECIFICATION**

Please amend the specification as indicated below.

***For Tables 7-22 on pages 14-21 of the originally filed specification, please replace "Self Ne" with "Self Next".***

***Please substitute the following annotated paragraph for paragraph [0006] on page 2 of the originally filed specification:***

[0008] The crosstalk noise environments that may occur for the above bit rate target objective are varied. For example, noise environments may include Near-end cross talk (NEXT), Far-end cross talk (FEXT), disturbance from Integrated Services Digital Networks (ISDN), High Speed Digital Subscriber Lines (HDSL), Single-pair High Speed Digital Subscriber Line (SHDSL), T1, and Self-disturbances at both the Central Office (CO) and Customer Premise Equipment (CPE) ends. NEXT from HDSL and SHDSL tend to limit the performance in the upstream channel, while NEXT from repeatered T1 Alternate Mark Inversion (AMI) systems tend to severely limit the downstream channel performance. An additional source of noise is loops containing bridged taps that degrade performance on an Asymmetric Digital Subscriber Line (ADSL) downstream channel more so than the upstream channel.

***Please substitute the following annotated paragraph for paragraph [0011] on page 3 of the originally filed specification:***

[0013] Another advantage of Smart DSL is that it is a good way to handle providing LDSL services in different countries. For example, so far, LDSL work has focused on Southwestern Bell (SBC) requirements. As a result, it is risky of, for example, a US-based LDSL provider to rely on the ability to apply any masks that pass SBC tests to Europe, China or Korea. LDSL is a difficult project and essential for all the countries. Therefore, any scheme for LDSL standardization that takes into account merely SBC physical layer and cross talk requirements may jeopardize the ADSL reach extension in non-standard LDSL countries. Other drawbacks of current systems also exist.

***Please substitute the following annotated paragraph for paragraph [0016] on page 4 of the originally filed specification:***

[0018] In accordance with some embodiments of the invention, the method may further comprise determining features of upstream and downstream transmission. The method may further comprise determining one or more of: cut-off frequencies, side lobe shapes, overlap, partial overlap or Frequency-Division Duplexing (FDD) characteristics.

***Please insert the following new paragraphs immediately after paragraph [0059] on page 8 of the originally filed specification:***

Figure 41 illustrates a flow diagram for implementing smart DSL systems in accordance with one embodiment.

Figure 42 illustrates a flow diagram for implementing smart DSL systems in accordance with another embodiment.

***Please substitute the following annotated paragraph for paragraph [0063] on page 8 of the originally filed specification:***

[0063] This section defines a Smart DSL concept for LDSL. With reference to Figure 41, [[In]] in some embodiments, operating with smart DSL systems for LDSL may include the below listed steps. The first and second steps may be completed, in some embodiments, during a standardization process and other steps may be performed during a modem's handshake/initialization phase in order to optimize the performance for any type of loops and noises.

***Please insert the following new paragraph immediately after paragraph [00112] on page 22 of the originally filed specification:***

Figure 42 illustrates a flow diagram for implementing smart DSL systems in accordance with some embodiments. Although the flowchart of Figure 42 shows a specific order of execution, it should be appreciated that the order of execution may differ from that which is depicted. Beginning with block 4201, a spectral mask is selected based upon performance criteria. The selection process may be performed manually or automatically. For some embodiments, selecting a spectral mask further comprises selecting a spectral mask from a number of upstream masks (U1, U2, U3, . . . , Un) and a number of downstream masks (D1, D2, D3, . . . , Dn). In block 4202, the selected spectral mask is activated based on at least one of customer premise or central office capabilities. It should also be emphasized that the above-described embodiment is merely an example of one possible implementation. Other variations and modifications may be made to the above-described embodiment.